



# Sparking Powerful Change Through the Green Suppliers Network

## Byrne Electrical Specialists

Headquarters: Rockford, Michigan

Employs: 200

### Green Suppliers Network Results

- Removed 74 tons of thermoplastic polymers from waste stream.
- Reduced waste disposal costs by 10 percent.
- Facilitated cradle-to-cradle technologies.

## About the Green Suppliers Network

Working in collaboration with the U.S. Department of Commerce (DoC), the U.S. Environmental Protection Agency (EPA) established the Green Suppliers Network to help small and medium-sized manufacturers stay competitive and profitable while reducing their impact on the environment.

The Green Suppliers Network review took place in March 2005. Lean and Clean training provided by:

**The Right Place, Inc., a NIST MEP**  
Rick Flemming  
Bill Stough

**B**yrne Electrical Specialists, Inc. is a small manufacturer of power distribution harnesses for the office furniture industry. Steelcase, Inc., an office furniture manufacturer and a Green Suppliers Network Corporate Champion, nominated Byrne to participate in a Green Suppliers Network review.

## The Situation


Prior to the technical review, Byrne's molding department had trouble keeping pace with incoming orders. To meet various customer specifications, the molding dies of the presses had to be switched out on a regular basis, causing long changeover times that regularly held back production. Furthermore, the molding department operated with no scheduling or planning for future demand, and operators worked frantically to keep pace with incoming orders. The hurried atmosphere of production increased the frequency of defects and prevented Byrne from performing regular maintenance on the press or implementing *Lean and Clean's* 5S practices—sort, straighten, shine, standardize, and sustain.

The review team developed a value stream map for a product line that produces 36-inch raceways—power harnesses designed to provide electricity inside office cubicles. Focusing on one product line allowed Byrne to tackle the problems caused by the molding press.

## The Solution

■ **Implement a Supermarket System.** The review team recommended building a “supermarket” inventory of the various molded parts to use in the molding process. In lean manufacturing terms, a “supermarket” is a tightly managed inventory of work-in-progress parts that is only replenished after filling customer orders. By implementing a supermarket system, molding press operators were then allowed time to clean their workspace and perform regular maintenance, such as cleaning the molding dies, leading to a reduction of defects in production. Since implementing the supermarket system, the molding department has not been the cause of any missed shipments nor needed to fast-track orders to meet customer commitments.

■ **Identify Recycling Opportunities.** Byrne's review team also identified easily recyclable components of the company's waste stream. The company began separating out scrap thermoplastic polymers, a previously large waste stream,



as well as smaller waste streams such as office paper, corrugated cardboard, and copper. Byrne now recycles 74 tons of high-density thermoplastic polymers annually, which translates into an initial waste disposal savings of about 10 percent.

- **Hold Kaizen Events.** Byrne used the Green Suppliers Network to jump-start its journey toward Lean and Clean manufacturing and changing the company's culture. "The initial Green Suppliers Network review was only the beginning," says Pat Young, director of Product & Systems Improvement. "Since our review, we've held nearly 50 Kaizen events—week-long, narrowly focused and deep-probing workplace quality improvement exercises—resulting in an average of 5:1 return on investment." These Kaizen events helped Byrne create a new outlook on what clean manufacturing is. The company is now investigating opportunities to eliminate toxics such as polyvinyl chloride and brominated solvents from its manufacturing processes and has developed the first cradle-to-cradle office power system.

Byrne admits that sustaining the improvements identified by the Green Suppliers Network is challenging. But Byrne accredits its success to changing the company's culture and recognizing employee successes with small tokens of gratitude on a weekly basis.

"Green Suppliers Network helped Byrne realize that the push for sustainable manufacturing is true and not just a short-lived trend in consumer preference."

—Pat Young,  
Director of Product &  
Systems Improvement,  
Byrne Electrical, Inc.